

What is claimed is:

1. A display device comprising:

a pixel array in which a plurality of pixel rows each of which includes a plurality of pixels arranged in parallel along the first direction are arranged in parallel along the second direction which intersects the first direction;

a scanning driver circuit which selects the plurality of respective pixel rows in response to a scanning signal;

a data driver circuit which supplies a display signal to the respective pixels included in at least one row selected in response to the scanning signal out of the plurality of pixel rows; and

a display control circuit which controls a display operation of the pixel array, wherein

lines of image data are inputted to the data driver circuit one after another for every horizontal scanning period of the image data,

the data driver circuit alternately repeats (i) a first step for generating a display signal corresponding to each one of the lines of the image data one after another for every fixed period and outputting the display signal to the pixel array N-times (N being a natural number equal to or greater than 2) and (ii) a second step for generating a display signal which makes the luminance of the pixels lower than the luminance of the pixel in the first step for the fixed period and outputting

the display signal to the pixel array M-times (M being a natural number smaller than N),

the scanning driver circuit alternately repeats (i) a first selection step for selecting the plurality of pixel rows for every Y rows (Y being a natural number smaller than the N/M) sequentially from one end to another end of the pixel array along the second direction in the first step and (ii) a second selection step for selecting the plurality of pixel rows other than the pixel rows (Y×N) selected in the first selection step for every Z rows (Z being a natural number not smaller than N/M) sequentially from one end to another end of the pixel array along the second direction in the second step, and

the display signal outputted in the first step of the image data is delayed from a memory in which the display signal is stored in the vicinity of a boundary between one frame period and a frame period next to the one frame period within a time-sequential interval between the display signal which is outputted in the second step of the last image data in a certain frame period and the display signal which is outputted from the second step of the first image data in the next frame period.

2. A display device according to claim 1, wherein outputting of the display signal outputted in the second step of the image data is performed with a time-sequential deviation which differs in displaying of respective frames, and the display signal of each frame is distributed such that the

display signal does not include (N-2) pieces of time-sequential deviation of the fixed period at maximum with respect to the corresponding display signal of the next frame.

3. A display device according to claim 1, wherein in the vicinity of a boundary between a certain frame period and a frame period next to the certain frame period, a time-sequential interval between the display signal which is outputted in the second step of the last image data in the certain frame period and the display signal which is outputted in the second step of the first image data in the next frame period is set substantially equal to a time-sequential interval between the display signal which is outputted in the second step of other certain image data and the display signal which is outputted in the second step of the next image data.

4. A display device according to claim 1, wherein the number Y of the respective pixel rows selected in the first selection step in response to each output of the display signal in the first step is 1 and the number N of the display signal outputs in the first step is not smaller than 4, and the number Z of the respective pixel rows selected in the second selection step in response to each output of the display signal in the second step is not smaller than 4 and the number N of the display signal outputs in the second step is 1.

5. A driving method for a display device in which to a display device which comprises a pixel array in which a

plurality of pixel rows each of which includes a plurality of pixels arranged in parallel along the first direction are arranged in parallel along the second direction which intersects the first direction, a scanning driver circuit which selects the plurality of respective pixel rows in response to a scanning signal, a data driver circuit which supplies a display signal to the respective pixels included in at least one row selected in response to the scanning signal out of the plurality of pixel rows, and a display control circuit which controls a display operation of the pixel array, lines of image data are inputted one after another for every horizontal scanning period, wherein

the data driver circuit alternately repeats (i) a first step for generating a display signal corresponding to each one of the lines of the image data one after another and outputting the display signal to the pixel array N-times (N being a natural number equal to or greater than 2) and (ii) a second step for generating a display signal which makes the luminance of the pixels lower than the luminance of the pixel in the first step and outputting the display signal to the pixel array M-times (M being a natural number smaller than N),

the scanning driver circuit, in response to inputting of a scanning clock, alternately repeats (i) a first selection step for selecting the plurality of pixel rows for every Y rows (Y being a natural number smaller than the N/M) sequentially

from one end to another end of the pixel array along the second direction in the first step and (ii) a second selection step for selecting the plurality of pixel rows other than the pixel rows ($Y \times N$) selected in the first selection step for every Z rows (Z being a natural number not smaller than N/M) sequentially from one end to another end of the pixel array along the second direction in the second step, and

the display signal outputted in the first step of the image data is delayed from a memory in which the display signal is stored in the vicinity of a boundary between one frame period and a frame period next to the one frame period within a time-sequential interval between the display signal which is outputted in the second step of the last image data in a certain frame period and the display signal which is outputted from the second step of the first image data in the next frame period.

6. A driving method for a display device according to claim 5, wherein in the vicinity of a boundary between a certain frame period and a frame period next to the certain frame period, a time-sequential interval between the display signal which is outputted in the second step of the last image data in the certain frame period and the display signal which is outputted in the second step of the first image data in the next frame period is set substantially equal to a time-sequential interval between the display signal which is outputted in the second step of other certain image data and the display signal which

is outputted in the second step of the next image data.

7. A driving method for a display device according to claim 5, wherein the number Y of the respective pixel rows selected in the first selection step in response to each output of the display signal in the first step is 1 and the number N of the display signal outputs in the first step is not smaller than 4, and the number Z of the respective pixel rows selected in the second selection step in response to each output of the display signal in the second step is not smaller than 4 and the number N of the display signal outputs in the second step is 1.